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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/363,456	07/29/1999	WILLIAM J. BENMAN	VIRTUAL-2	8150

7590 11/21/2002

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EXAMINER

CAO, HUEDUNG X

ART UNIT PAPER NUMBER

2671

DATE MAILED: 11/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/363,456

Applicant(s)

BENMAN, WILLIAM J.

Examiner

Huedung X Cao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 28 August 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-12 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-12 and 14-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-12, 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parulski et al. (#6,366,316 B1) in view of Adelson (#5,706,417).

As per claim 1, and similar claim 17, Parulski teaches the claimed "system for transplanting an image from a first scene to a second scene" comprising:

first means for providing image data (Parulski, col. 4, lines 38-41);

second means responsive to said first means for storing a first frame of image data consisting of a heterogeneous background scene (Parulski, figure 5 – element 18). It is noted that Parulski does not explicitly disclose a heterogeneous as claimed; however, Parulski's background 18 is analogous to Applicant's a heterogeneous background. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a heterogeneous background scene so the users can have more choice to select a background that they want for the display image.

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third means responsive to said first means for providing a second frame of image data consisting of a second scene having said background scene at least partially obscured by a foreground object (Parulski, col. 2, lines 38-56); and

fourth means responsive to said second and third means for processing said second frame to extract an image of said object independent of said background scene (Parulski, fig. 1, element 22), said fourth means including: said fourth means includes means for comparing picture elements of said second frame to corresponding picture elements in said first frame (zero value, col. 6, lines 8-11 and means for outputting said corresponding picture elements in said second frame if the result of the comparison is a predetermine value (unity value, col. 6, lines 12-15) which Adelson teaches col. 6, lines 8-14. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a comparing means for comparing picture element in order to decide whether if the desired picture will be outputted.

As per claims 3, and a similar claim 8 "means for inserting said image of said foreground object into a third scene" (Parulski, fig. 1, element 32).

As per claim 4, and a similar claim 9 "said third scene is computer generated" which Adelson teaches in col. 13, lines 39-63. It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate the third scene by computer in order to develop a 3D model of the real moving object.

As per claim 5, and a similar claim 10, "wherein said first scene is static" which Adelson teaches in col. 4, line 23.

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As per claim 6, and a similar claim 11 "wherein said first scene is dynamic" which Adelson teaches in col. 10, lines 49-50.

Claim 7 is similar to claim 1, except for the steps of: fifth means for processing said difference frame to provide a template, said fifth means including means for differentiating said filtered image to provide said template and sixth means for multiplying said second frame by said template to extract an image consisting essentially of said foreground object which Parulski teaches in the processing steps are used to create a suitable foreground mask, col. 3, lines 27-52.

As per claims 12, wherein said fifth means includes means for filtering said difference frame and differentiating said filtered image which Paruski teaches in col. 5, lines 28-67.

As per claims 14-16, wherein means for differentiating provide an outline, said fifth means includes means for filling said outline with a value, and said value is logical "1" which Adelson suggests in col. 5, line 65-col. 6, line 14.

As per claim 18, wherein said means for outputting said corresponding picture elements includes means for logically gating picture elements in said current frame in response to the output of said means for comparing (Paruski, col. 3, line 53-col. 4, line 31).

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3. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paruski et al. (#6,366,316 B1) in view of Adelson (#5,706,417) and further in view of Astle et al. (#4,827,344).

As per claim 19, herein said means for logically gating includes means for logically ANDing corresponding picture elements in said second frame with the output of said for comparing (Astle, col. 2, line 66-col. 3, line 25).

As per claim 20, wherein said means for logically gating includes means for logically ANDing corresponding picture elements in said second frame with an inverted output of said means for comparing (Astle, col. 2, line 66-col. 3, line 25).

Double Patenting

4. Claims 1, 3-12, 14-17 of this application conflict with claims 1-17 of Application No. 09/363,771 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

Response to Arguments

5. Applicant's arguments filed 08/28/02 have been fully considered but they are not persuasive.

Applicant argues that none of the references disclose or suggest a system for extracting an image of an object, from a heterogenous background scene, having means for comparing picture elements of a current frame to those of a stored frame and selectively outputting picture elements in the current frame based on the result of the comparison which is not correct Parulski does teach in col. 2, lines 44-51; and col. 6, lines 8-11 in Adelson.

Applicant argues that there is no mention of "differentiation" in Parulski and Examiner is confusing "differencing" with "differentiation". However, the term "differentiation" does not mean in time or space; therefore it can be regarded on same frame or different frame according to different time and space and there is no indication differentiation just a different in space.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Huedung Cao** whose telephone number is **(703) 308-5024**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Mark Zimmerman**, can be reached at **(703) 305-9798**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

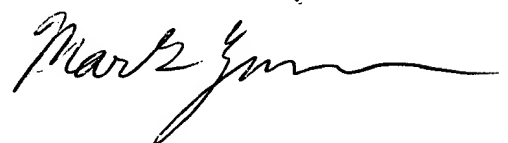
or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 305-0377.

Huedung X. Cao
Patent Examiner



MARK ZIMMERMAN
SUPERVISORY PATENT EXAMINER
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